

Claims

1. An adjustable multi-band antenna having a ground plane, a radiating plane with a dielectric support part, a feed conductor and a short conductor of the antenna, and an adjusting circuit to displace operation band of the antenna, which adjusting circuit comprises a parasitic element and a switch as well as a terminal element directly connected to the ground plane, by which switch the parasitic element can be connected to the terminal element;
5 the adjusting circuit further comprising, for restricting the effect of controlling the switch to a single operation band of the antenna, a filter located electrically in series with the parasitic element and the switch.
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2. An antenna according to claim 1, said single operation band being on passband of the filter and the other operation bands being on stopband of the filter.
3. An antenna according to claim 2, operation bands of which comprise at least a lower operation band and an upper operation band, said single operation band being
15 the upper operation band, and the filter being a high pass filter, the cutoff frequency of which lies between the lower and upper operation bands.
4. An antenna according to claim 1, the filter locating electrically between the parasitic element and the switch so that the parasitic element is connected to filter's input by a conductor of a short transmission line and filter's output is connected to
20 first terminal of the switch by a conductor of second short transmission line, the second terminal of the switch being fixedly connected to one conductor of a third short transmission line, the terminal element being in the opposite end of the third short transmission line.
5. An antenna according to claim 4, the terminal element being a short-circuit
25 conductor.
6. An antenna according to claim 4, the terminal element being a reactive structure part to set a displacement of an operation band as desired.
7. An antenna according to claim 4, the switch being a two-way switch, from
30 third terminal of which starts a conductor of fourth short transmission line, which fourth line is open at it's opposite end.
8. An antenna according to claim 1, said parasitic element being a conductive strip being attached to said dielectric support part.

9. A radio device having an adjustable multi-band antenna, which comprises a ground plane, a radiating plane and an adjusting circuit to displace operation band of the antenna, which adjusting circuit comprises a parasitic element, a switch and a terminal element directly connected to the ground plane, by which switch the parasitic element can be connected to the terminal element;
- 5 the adjusting circuit further comprising, for restricting the effect of controlling the switch to a single operation band of the antenna, a filter located electrically in series with the parasitic element and the switch.